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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,334	10/27/2005	Mikhail I Papisov	0492479-0041	1459
24280 7590 10/24/2008 CHOATE, HALL & STEWART LLP TWO INTERNATIONAL PLACE BOSTON, MA 02110			EXAMINER CHU, YONG LIANG	
			ART UNIT	PAPER NUMBER
			1626	
			NOTIFICATION DATE	DELIVERY MODE
			10/24/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@choate.com

Office Action Summary	Application No. 10/521,334	Applicant(s) PAPISOV ET AL.	
	Examiner YONG CHU	Art Unit 1626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 11, 12, 14, 20, 32-51, 54-56, 58 and 59 is/are pending in the application.
- 4a) Of the above claim(s) 32-40, 44-51, 54-56, 58 and 59 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 11-12, 14, 19-20, and 41-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-6, 11-12, 14, 20, 32-51, 54-56, 58, and 59 are currently pending after entering amendment filed on 08/04/2008. Claims 32-40, 44-51, 54-56, 58 and 59 remain withdrawn as non-elected subject matter. Therefore, claims 1-6, 11-12, 14, 19-20, and 41-43 are under examination on the merits.

Response to Amendment

The Amendment by Applicants' representative Andrea L. Robidoux dated on 08/04/2008 has been entered.

Response to Arguments

Rejection of claim 43 under 35 U.S.C. §112, 1st paragraph

Applicants' amendment over the rejection of claim 43 by changing "a diagnostic label agent" into "a diagnostic label" with support at paragraph [0196] of the instant specification obviated the rejection.

Rejection of claims 7 and 10 under 35 U.S.C. §112, 2nd paragraph

Applicants have cancelled the rejected claims 7 and 10. Therefore, the rejection is moot.

Rejection of the claims under 35 U.S.C. §102(b)

Applicants' amendment of claim 1 by further limiting "a carrier" into "a carrier comprising a biodegradable and biocompatible polyacetyl or polyketals" obviates the rejection.

Rejection of the claims under 35 U.S.C. §103(a)

Applicants' amendment and argument over rejection of claims 1-12, 14, 19-22, and 41-43 have been fully considered, but found not persuasive. Applicant's arguments are on the ground that the Examiner has not established a *prima facie* case of obviousness because **first**, Cervigi does not teach a conjugate of a carrier and modifier **as presently amended claimed**, but rather shows only the synthesis of glycoprotein or lipoproteins, wherein the function of the complete structure is unspecified; **second**, even if one ordinary skilled in the art was motivated to modify the Cervigni teaching by conjugating to a polyacetal carrier as taught in the '398 patent, the Examiner has failed to show there would be a reasonable expectation of success within the references, because polyacetals are susceptible to nucleophilic attack; **third**, the '037 patent teaches away from the Applicants' claimed invention because the '037 patent teaches conjugates of HA protein suitable for "containing a strong immune response to the HA protein", which is potentiated in comparison of HA alone, and none of the instantly claimed carriers are designed to potentiate an immune response of the conjugate; **lastly**, Hermanson only teaches liposome conjugated to antibodies, biotinlated compounds, or other proteins, but no teaching, motivation, or suggestion from Hermanson to modify Cervigni to arrive at the present amended claim.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir.

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1986). Specifically, as articulated in the previous Office action, Cervigni teaches an oxime-containing conjugate, and this type of the conjugate further comprises a biological useful modifier such as peptide, and a carrier such as lipid, steroid, PEG, or saccharide, as illustrated in Scheme 1 of the reference. Even though Applicants have amended claim 1 to limit the scope of the claimed carrier to polyacetyl or polyketals, which are not taught by Cervigni, the '398 patent teaches polyacetyl polymer is used as a carrier linked to a drug forming a pharmaceutical conjugate, see page 7 of the previous Office action. Therefore, a conjugate of polyacetyl or polyketals with a modifier through an oxime-containing linker are taught, suggested and motivated from the combined references. In terms of the argument of a reasonable expectation of success within the references, because polyacetals are susceptible to nucleophilic attack, a reasonable stability of polyacetyl or polyketals from nucleophilic attack is predictable to one ordinary skilled in the art by choosing appropriate reaction conditions without undue experimentation, because they are known to one skilled in the art, and taught by many references. In addition, polyacetyls or polyketals **are not such labile** under neutral pH condition. In terms of the argument that the '037 patent teaches away from the Applicants' claimed invention, the Examiner does not agree. The '037 patent demonstrates a biological **conjugate** of HA-protein (HA or hyaluronic acid, a polysaccharide) is known for **its pharmaceutical application** as an antigen for boosting immune response or as an immunomodulator. At last, the previously cited Hermanson reference teaches a liposome-based bio-conjugate, and a method of

preparing such conjugate, which in combining with the other cited references as whole renders the instantly claimed invention obvious.

Obviousness-type double patenting rejection

Applicants fail to respond to the rejection, and the claims are also rejected on the other issues. Accordingly, the rejection is maintained.

Conclusion

- No claims are allowed.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Telephone Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yong Chu whose telephone number is 571-272-5759. The examiner can normally be reached on 7:00 am - 3:30 pm EST. If attempts to reach

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the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph McKane can be reached on 571-272-0699. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Status information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

/Yong Chu, Ph.D./
Patent Examiner
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/Kamal Saeed, Ph.D./
Primary Patent Examiner
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